

## Determination of Heavy Metals in Canned Dry-Milk and Fish from Supermarkets in Addis Ababa

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**Abstract :** Background: Human being require metallic elements such as copper and zinc up to certain limits that could cause problems if found in excess. Other metallic elements like cadmium and lead can be harmful to health if foodstuffs containing them are consumed regularly. Canned dry-milk and fish contain these metals in the journey from farm to fork. Objective: This study was designed to determine the concentration of Cd, Cu, Pb, and Zn in four brands of canned dry-milk and fish from supermarkets in Addis Ababa. Methods: Laboratory based cross-sectional study design was used to determine the concentration of the heavy metals in four different brands of canned dry-milk and fish imported from different country from February to March 2013. The foods brands were sampled by simple random sampling method from eight supermarkets in Addis Ababa and coded. Wet oxidation using HNO<sub>3</sub> and H<sub>2</sub>O<sub>2</sub> was used to extract the heavy metals from the foods samples and analyzed by Flame Atomic Absorption Spectroscopy. Conclusions: From this study, it can be concluded that the level of Cadmium and Copper residues in canned dry-milk significantly vary among brands; and the levels of copper residue significantly vary among brands of canned fish at 95 % level. The AM milk brand from Ethiopia was safe in cadmium level. The cadmium and lead level in the NF fish brands from Indonesia packed in vegetables oil, and the lead level in DF brand packed in brine are safe.

**Keywords :** AAS, canned dry milk, canned fish, Cd, Cu, Pb, Zn

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